Fermilab

Aperture Current Deployment

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The deployment of the Aperture product associated with the activities of CD/CDO/OPS is described. Minor updates have been made to the original to bring the document to a more current description. The connection with ESHTRK is described as is the relationship to the Office Management and Data Center Planning Activities.

Introduction

Presently, the Computing Division uses Aperture for two functions:

- Office Management, and

- Data Center Planning

The Office Management function allows one to examine offices across the several buildings of the Computing Division for space usage without the need to actually go out and walk the halls to determine what or who is occupying the space. The Data Center Planning function allows one to propose, plan, and install equipment into the several Data Centers as well as to manage the resources, such as power and networking.

Hardware

This section is very likely out of date as of December 2005.

CPU

The hardware which supports Aperture consists of a PC, currently residing on WH7SW, identified as cd-aperture.fnal.gov. It is a Dell 800 (an 800 MHz Dell PC) with 512 Megabytes of RAM.

Disk

Under C:\Aperture_Projects is the data supporting the various Aperture projects relating to the functions described in the Introduction. Also on this disk is a folder which is a back up of the Aperture_Projects folder. In addition to this backup, there is a periodic back up to tape. CSS/CSI does this backup.

Software

The specific version numbers are likely out of date as of December 2005.

Client Software

Presently, individuals performing the functions described in the Introduction have the Aperture Client on their individual PC's. Presently, the version of the Aperture Client in use is 7.04.04918.

There is a CDROM of the Aperture software (available from Phil Lutz) which installs version 7.01.03656. Once that is installed, one goes to:

> ftp://web1.aperture.com/downloads/product_installers

where one downloads:

ftp://web1.aperture.com/downloads/product_installers/apertureclientupdate7044918.zip

unzips and installs the update to obtain the current version in use.

We presently have three licenses for Aperture; they are allocated to Phil Lutz, Keith Coiley, and David Ritchie. For the software on the CDROM, which is serial number 00308058, the license code is YB3QB.

Server and Supporting Software

In addition to the client software, we also have on the Aperture computer

- the Aperture Server software,
- the Aperture Smart Pictures product, and
- the IIS webserver.

Aperture Server Software

What it provides...

The Aperture Server software provides the capability for several people to access Aperture projects from their PC's through the server instead of mounting the disk and accessing the files directly. This reduces the possibility of corruption of the files in the case of several people accessing and updating the information simultaneously.

What it does *not* provide...

The Aperture Server software does ***not*** provide a capability of using the Aperture software via a web browser. It is still expected that the Aperture client is deployed to the individual's PC.

It does ***not*** prevent two people from updating the same drawing at the same time. That is, it does not provide a check-out, check-in "lockout" function as is done for software development with code versioning systems.

Discussion...

The present arrangement with Aperture is that of a thick client arrangement. In some sense, the technology might be described as being at the second level where the levels are:

1. that of multiple persons using a program (i.e., the Aperture executable) on each of their networked PCs to access data files on the file server in simultaneous shared fashion,

2. that of multiple persons using a program (i.e., the Aperture executable) on each of their networked PCs to access server which orchestrates access to the underlying data files residing on the server, and

3. that of multiple persons using a web browser (i.e., Internet Explorer) on each of their networked PCs to access a web server and its associated cgi programs which then orchestrates access to the underlying data files residing on the server.

It is instructive to compare our situation with Aperture to that with Matrix. With Matrix, prior to December 2004, we ran the Matrix thick client. That required a more complicated deployment because the thick client had to be installed on every user's PC. Post December 2004, we switched to the Matrix thin client.

Here, in the case of Matrix, the user runs a web browser, such as Internet Explorer or Netscape, and one or more java applets. This approach simplifies the deployment as it can be expected that the user has already web browser on his or her platform and the java applets download and are therefore self-deploying.

Aperture Smart Pictures

The Aperture Smart Pictures software gives read-only access from the web to drawings and associated database. These are the drawings and database that have been updated via the Aperture client (through the Aperture server) as described above. To see Aperture Smart Pictures in action, view:

> http://cd-aperture.fnal.gov/scripts/spserver/projlist.dll

In addition to seeing the drawings, you may generate reports on information stored in the database that is associated with the elements contained in the drawings.

What it provides to…

End Users

End users, such as those in the Computing Division who wish to locate an individual and see their office layout, use their web browser (either IE or Netscape appear to work) to access the web address

```
http://cd-aperture.fnal.gov/cgi-bin/cdstaff/CDStafflocator.pl
```

This invokes a Perl script (written by Dorota Genser) which presents them with a list of employees. When the end user clicks on the employee's name, an office layout page (which includes several offices)is brought up via the "Smart Pictures" product.

Clicking on an office brings up the name of the person who is assigned to that office. (Pop-ups have to be enabled for this to work.) (The employee list page indicates that the particular office assigned to the employee will be outlined in red on the office layout page. Note that as of December 9, 2005, the highlighting feature does not seem to work in some cases when the employee's name has not been entered in the database as being in an office.).

At this point, the buttons that are present on the Smart Pictures web page allow the end user to access other Smart Picture "projects" besides the employee office locator one. For example, the end user can click the "Pick Projects" button to be presented with a menu of other Aperture projects that are available on the Aperture PC in the Aperture Projects area. At the present, the projects available are:

- the card reader system at FCC

- the CD Computer Rooms

- the CD Staff, and

- the FCC Evacuation Routes

The Perl script at the web address located above is on the disk at:

```
C:\Inetpub\wwwroot\cgi-bin\CDStaff
```

This contains the file CDStaffLocate.pl. Appendix I shows the current contents of this file.

Maintainer Usage

Presently the maintainer of the Data Center management information is Phil Lutz. The maintainer of the Office Management information is Keith Coiley.

The maintainer of the CD Data Center Aperture projects uses the Aperture client (through the Aperture server) to update the information about the location of items in the data center.

The maintainer of the Office Locator runs a utility script whenever changes have occurred in the assignment of persons to locations. This script obtains from the ESHTRK database the association of persons and their locations. This script updates a file used by the CD Staff locator which provides a record of the person and the Aperture "Object Id" which identifies the person's location on the Aperture map.

The web address:

```
http://www-esh.fnal.gov/pls/default/web_forms.form?id=88
```

is somehow involved in this process (but I am not sure how).

Appendix I

Office Locator Support

The Perl script below supports the Computing Division web page capability that provides a way to determine a person's office given his or her name.

See the section on Maintenance Usage above for more information the supporting data file. **Note the embedded TCP/IP address.**

This has probably changed since the date of the Original.

CDStaffLocator.pl Perl Script

```perl
#!/usr/local/bin/perl
#=====================================================================
# $Id: CDStaffLocator.pl,v 1.4 1999/11/04 20:02:11 dorota Exp $
#=====================================================================
#
# Authors:         Dorota I. Genser
#            e-mail: dorota@fnal.gov
#
# Created:         Nov, 1999
#
#
# The variable $file must point to the
# folder configured to be the Aperture Server
# project folder. The web server anonymous
# user name (e.g. www-csd for csdserver1)
# must have Read access to this file. The file
# is created by an export from
# Aperture of CD staff names and objectIds
# pointing to their office locations
# in the Aperture project named $projectname.
#
#=====================================================================
print  "Content-type: text/html\n\n";

print '<! this is the head of html>
<HTML>
<HEAD>
<TITLE>CD Staff Locator</TITLE>
</HEAD>
<BODY LINK=#000080 BGCOLOR=#FFFFFF>
<div align="center"><center>

<table border="0" width="95%">
    <tr>
        <td align="center" valign="top"><img
        src="http://cddocs.fnal.gov/cfdocs/productsDB/cdlogo.gif"
        alt="cdlogo" align="absmiddle" width="90" height="92"> </td>
        <td align="center" valign="top"><p align="left"><br>
        <a href="http://www.fnal.gov/cd/main/cdorg.html"><font
        color="#000000" size="1" face="Arial, Geneva, Helvetica"><b>Departments</b></font></a>
        | <a href="http://www.fnal.gov/cd/"><font color="#000000"
        size="1" face="Arial, Geneva, Helvetica"><b>Computing
        Division</b></font></a> | <a
        href="http://www.fnal.gov/faw/"><font color="#000000"
        size="1" face="Arial, Geneva, Helvetica"><b>Fermilab at
        Work</b></font></a> | <a href="http://www.fnal.gov/"><font
        color="#000000" size="1" face="Arial, Geneva, Helvetica"><b>Fermilab
        Home</b></font></a><br>
        <font size="1">_____</font>
        <br>
        <font size="5" face="Arial, Geneva, Helvetica">Computing
        Division</font><font size="1"> </font></p>
        </td>
    </tr>
</table>
</center></div>
```

```perl
<H1 ALIGN=CENTER>Computing Division Staff Locator</H1>
<H4 ALIGN=CENTER>Select the highlighted office on the drawing to display more information</H4>
';


my $projectname = "cdstaff.app";
my $file = "C:\\Aperture_Projects\\CDStaff.ID\\CDStaff-ObjectIDs.txt";
# my $file = "D:\\Products\\Inetpub\\wwwroot\\cgi-bin\\SCDStaff-ObjectIDs.txt";
my @lines ;
# print " File $file doesn't exists <br>\n" unless -e $file;
# print " This is the name of this script \'$0\' <br>\n";


my $letter;

if (open(IN,$file) && ( @lines = <IN> ) && close(IN) ) {
   print "<br><blockquote><blockquote><blockquote>";
     foreach (@lines) {
          chop;
          s/\"//g;
          my ($last,$first,$id) = split /\s*,\s*/;

          if ( $last =~ /(\w)\w*/ && $id ne "") {
              if ( $letter ne $1 )  {
                  $letter = $1;
                  print "<p><h1>$letter</h1>\n";
           }
              print "<a href=\"http://cd-aperture.fnal.gov/scripts/spserver/apercgi.dll",
              "?P=2,TCP,131.225.80.191,3010,,,F:1:$projectname&zf=10&o=$id\">".
                   &make_name($last).", ".&make_name($first)."</a> <br>\n";
          }
     }
   print "</blockquote></blockquote></blockquote>";
}
else {
    print "<center><b> File $file does not exists or could not be open </b></center>";
}
print
'</BODY>
</HTML>
';

exit;

#--- Make nice name

sub make_name
{
    my $name = $_[0];
    my @o;
    foreach ( split /\s+/, $name){
        if (   /^\s*(\w)(\S*)\s*$/ ) {
            my ($L, $rest,$rest2) = ($1,$2,$3);
            $rest =~ tr/A-Z/a-z/;
            my $n = $L.$rest.$rest2;

            if ( $n =~ /^(\S*)(\'|Mac|Mc|\-)(\w)(\S+)$/ ) {
                my ( $pre,$s,$U,$r ) = ($1,$2,$3,$4);
                $U =~ tr/a-z/A-Z/;
                   $n = $pre.$s.$U.$r;
          }
            push @o, $n;
          }
        else {
```

```
            push @o,$_;
        }
    }
    join " ",@o;
}
```